

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
RICHMOND DIVISION**

WIAV SOLUTIONS LLC,

Plaintiff,

v.

MOTOROLA, INC., NOKIA CORPORATION,
NOKIA INC., PALM INC., PERSONAL
COMMUNICATIONS DEVICES LLC,
PERSONAL COMMUNICATIONS DEVICES
HOLDINGS, LLC, SONY ERICSSON MOBILE
COMMUNICATIONS AB, SONY ERICSSON
MOBILE COMMUNICATIONS (USA) INC.,
UTSTARCOM, INC.,

Defendants; and

MINDSPEED TECHNOLOGIES, INC.,

Defendant Patent Owner.

CASE NO. 3:09-cv-447-REP

DEFENDANTS' INVALIDITY CONTENTIONS

Pursuant to the Court's October 29, 2009 Scheduling Order, Defendants Motorola, Inc., Nokia, Inc., Nokia Corporation, Palm Inc., Personal Communications Devices LLC, Personal Communications Devices Holdings LLC, Sony Ericsson Mobile Communications (USA) Inc., and UTStarcom, Inc. (collectively, "Defendants") hereby serve their Invalidity Contentions on WiAV Solutions LLC ("WiAV"). In the absence of a claim construction order from the Court, Defendants have based these Invalidity Contentions, in part, upon WiAV's apparent reading of the asserted claims of U.S. Patent Nos. 6,104,992 ("the '992 patent"), 6,256,606 ("the '606 patent"), 6,385,573 ("the '573 patent"), 6,507,814 ("the '814 patent"), 6,539,205 ("the '205 patent"), 6,633,841 ("the '841 patent"), 6,680,920 ("the '920 patent"), 7,120,578 ("the '578

patent”), and 7,266,493 (“the ‘493 patent”) (collectively, the “Patents-in-Suit”) to cover the functionality identified by WiAV in its Infringement Contentions served on November 23, 2009, to the extent any such claim readings are suggested by WiAV’s contentions and to the extent such readings are understood from WiAV’s contentions. However, nothing herein and/or in the attached appendices should be construed as an admission that Defendants agree with WiAV’s apparent claim construction or that the asserted claims are valid under any construction thereof. Furthermore, nothing herein and/or in the attached appendices should be considered an admission that one or more of Defendants’ accused products satisfy any claim limitation of the Patents-in-Suit. Defendants have proposed alternative claim constructions for many of those advocated by WiAV and reserve the right to rebut WiAV’s claim construction positions as appropriate to ensure that the claims are construed in a manner consistent with the intrinsic record.

Prior art not included in this disclosure, whether or not now known to Defendants, may become relevant depending on the claim constructions WiAV asserts, the scope of the claims WiAV advocates in its infringement positions, and the claim constructions the Court adopts. Moreover, depending on the earliest priority date to which the claims of the Patents-in-Suit may be entitled, additional prior art may be discovered. Defendants’ investigations may also uncover further prior art. Therefore, Defendants reserve the right to supplement these disclosures to include all such prior art.

Many of the claims asserted by WiAV are invalid under 35 U.S.C. § 102 because each element of the asserted claims is disclosed separately in one or more prior art references. Separate charts are provided for each patent for each of these prior art references showing where each element of the asserted claims is disclosed (“the 102 Charts”). An index of each 102 Chart

is set forth below. In certain instances, the 102 Charts are formatted in 3-column format, with the middle column including the substance of Plaintiff's infringement contentions, to show the close similarity between Plaintiff's accused functionality and the prior art. This format is not intended to express agreement with Plaintiff's contentions. In addition, the 102 Charts are organized using the structure applied in Plaintiff's infringement contentions. Defendants' use of that structure should not be taken as an indication of the boundaries of claim elements. Defendants have also identified disclosures in the prior art of the claim preamble. Identification of such disclosures does not express any belief or contention by Defendants that the preamble does, or does not, constitute a claim limitation.

Defendants contend that each reference identified in a 102 Chart independently anticipates the identified asserted claims. If WiAV asserts that one or more of these references fails to disclose one or more specific elements of an asserted claim, the asserted claims are also invalid as obvious under 35 U.S.C. § 103 in light of either a single reference (including but not limited to those references charted as 102 references), or a combination of references. To the extent that WiAV asserts that the applicable law requires evidence of motivation to combine, such motivation, although relevant, is not dispositive. Nevertheless, such motivation exists to combine one or more of the references disclosed herein with each other. Generally, motivation to combine any of these references with others exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art. In many cases, these references identify and address the same technical issues as the patent to which they are applied as prior art and suggest very similar solutions to those issues. Moreover, many of these references cross-reference and discuss one another, further illustrating the close technical relationship among this group of references. If and to the extent WiAV challenges the correspondence of any of these

references with respect to particular elements of any asserted claim, Defendants reserve the right to supplement these Invalidity Contentions to identify more specific motivations to combine. Separate charts are provided for each prior art reference showing where each reference, alone or in combination with other references, discloses each element of the asserted claims (“the 103 Charts”). The 103 Charts also identify a specific exemplary motivation to combine for each combination of references, where applicable. Defendants, through provision of an exemplary motivation to combine and the general discussion above, do not express any belief or contention that such motivation is required under the applicable law or that the presence or absence of a motivation to combine references is dispositive on the issue of obviousness.

Defendants may rely upon a subset of the references listed below or all of the references depending upon the Court’s claim construction and further investigation. Defendants’ contentions that the references listed below, in various combinations, render the asserted claims obvious under 35 U.S.C. § 103 are in no way an admission or suggestion that each reference does not independently anticipate the asserted claims under 35 U.S.C. § 102. The obviousness contentions below are merely exemplary and are not intended to be exhaustive. Any of the references listed herein may be combined to render obvious, and therefore invalid, each of the asserted claims.

Additional obviousness combinations of the references identified below are possible, and Defendants reserve the right to use any such combination(s) in this litigation. In particular, Defendants are currently unaware of the extent, if any, to which WiAV will contend that limitations of the claims at issue are not disclosed in the art identified by Defendants. To the extent that an issue arises with any such limitation, Defendants reserve the right to identify other

references that would have made obvious the addition of the allegedly missing limitation to the disclosed device or method of operation.

Accordingly, Defendants reserve the right to supplement or modify these Invalidity Contentions based on further discovery and in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and procedures.

In addition to being invalid for anticipation and obviousness, one or more of the asserted claims of certain of the Patents-in-Suit are invalid because (i) the claimed inventions were not described when the applications for patents that led to certain of the Patents-in-Suit were filed, (ii) the specifications of certain of the Patents-in-Suit do not enable one of ordinary skill in the art to practice the claimed invention without undue experimentation; (iii) various claim terms and/or limitations of certain of the Patents-in-Suit are indefinite and/or (iv) certain asserted claims are drawn to subject matter that is not patentable as governed by 35 U.S.C. § 101. The grounds of invalidity applicable to each asserted patent are discussed below with respect to that patent.

I. THE '841 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Chart for the asserted claims of the '841 patent and identifying the corresponding appendix thereto:

Prior Art for '841 Patent (Anticipation)	Appendix
U.S. Patent No. 6,424,938 to Johansson, <i>et al.</i> , entitled "Complex Signal Activity Detection For Improved Speech/Noise Classification of an Audio Signal" (priority date November 23, 1998) ("Johansson")	1-A

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the '841 patent and identifying the corresponding appendix thereto:

Prior Art for '841 Patent (Obviousness)	Appendices
<p>Draft ver. 0.0.1 of 06.71 "Adaptive Multi-Rate Speech Processing Functions; General Description" (November 23-27, 1998) ("GSM 06.71")¹</p> <p><i>alone, or in combination with one or more of</i></p> <p>Digital Cellular Telecommunications System; Enhanced Full Rate (EFR) Speech Transcoding, GSM 06.60 V5.1.2 (Mar. 1997) ("GSM 06.60") <i>and/or</i></p> <p>TIA/EIA Interim Standard, TDMA Cellular/PCS – Radio Interface – Enhanced Full-Rate Speech Codec, TIA/EIA/IS-641 (May 1996) ("TDMA IS-641")</p>	1-B
<p>Johansson</p> <p><i>alone, or in combination with one or more of</i></p> <p>U.S. Patent No. 6,199,035 to Lakaniemi <i>et al.</i>, entitled "Pitch-Lag Estimation in Speech Coding," filed May 6, 1998 ("Lakaniemi") <i>and/or</i></p> <p>EP 0 628 947 A1 to Cellario, entitled "Method and Device for Speech Signal Pitch Period Estimation and Classification in Digital Speech Coders," filed September 6, 1994 <i>and/or</i></p> <p>U.S. Patent No. 5,553,191 to Minde, entitled "Double Mode Long Term Prediction in Speech Coding," filed Jan. 26, 1993 <i>and/or</i></p> <p>Woodward, J.P., and Hanzo, L., A Range of Low and High Delay CELP Speech Codecs Between 8 and 4 kbits/s, <i>Digital Signal Processing</i> 7 (1997), pp. 37-46 <i>and/or</i></p> <p>Pettigrew, R.; Cuperman, V., "Backward pitch prediction for</p>	1-C

¹ GSM 06.71 "incorporates by dated and undated reference, provisions from other publications," including Digital Cellular Telecommunications System (Phase 2+); Adaptive Multi Rate (AMR) Speech; ANSI-C Code for the AMR Speech Codec, GSM 06.73 version 7.0.0, Release 1998 ("GSM 06.73"), Draft ver. 0.0.1 of GSM 06.92, "Comfort Noise Aspects for Adaptive Multi-Rate Speech Traffic Channels" (November 23-27, 1998) ("GSM 06.92"), and Draft ver. 0.0.1. of GSM 06.94, "Voice Activity Detector (VAD) for Adaptive Multi-Rate (AMR) Speech Traffic Channels; General Description" (November 23-27, 1998). Accordingly, citations to GSM 06.71 will include citations to sections of GSM 06.73, GSM 06.92, and GSM 06.94, that were incorporated by reference.

low-delay speech coding," <i>Global Telecommunications Conference, 1989, and Exhibition. Communications Technology for the 1990s and Beyond. GLOBECOM '89., IEEE</i> , vol. 2, pp.1247-1252, 27-30 Nov 1989.	
--	--

C. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the '841 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

"Speech Coding: A Tutorial Review", A. Spanias, <i>Proceedings of the IEEE</i> , Vol. 82, No. 10, October 1994
"Real-Time Communication in Packet-Switched Networks", C. Aras, J. Kurose, D. Reeves, H. Schulzrinne
"Techniques, Perception, and Applications of Time-Compressed Speech," B. Arons
"Wideband Quality DPCM-AQF Speech Digitizers for Bit Rates of 16-32 kb/s", C. Cengiz, P. Patrick, C. Xydeas
"Low Bit-Rate Speech Coders for Multimedia Communication", R. Cox, <i>IEEE Communications Magazine</i> , December 1996
EP0496427B1
"The Dual Excitation Speech Model", J. Hardwick , 1992 Massachusetts Institute of Technology
"Audio Compression", P. Herget, 1996
"Transmission of multimedia data over lossy networks", M. Isenberg, August 1996
"Subband-Multipulse Digital Audio Broadcasting for Mobile Receivers", X. Lin, L. Hanzo, R. Steele, W.T. Webb, 1993 IEEE
"Dynamic Bit Allocation in Subband Coding of Wideband Audio with Multipulse LPC", P. Menardi, G. Mian, G. Riccardi
Telephone Transmission Quality: Methods for Objective and Subjective Assessment of Quality, ITU-T Recommendation P.830, (02/96)
"Digital Audio Compression", D. Pan, <i>Digital Technical Journal</i> , Vol. 5 No. 2, Spring 1993
"Low Bit Rate Speech Coding for Multimedia and Wireless Communications", R. Salami, <i>International Workshop on Circuits, Systems and Signal Processing for Communications</i> , April 23-26, Tampere, Finland
"Voice Communication Across the Internet: a Network Voice Terminal", H. Schulzrinne, July 29, 1992
U.S. Patent No. 5,060,269
U.S. Patent No. 5,742,734
U.S. Patent No. 5,890,108

U.S. Patent No. 6,058,362(A)
U.S. Patent No. 6,182,030(B1)
U.S. Patent No. 6,424,938(B1)
U.S. Patent No. 6,86,5534(B1)
U.S. Patent No. 7,272,556(B1)
U.S. Patent Appl. 20080052068(A1)
“Hidden Markov Model Decomposition of Speech and Noise”, A. Varga, R. Moore, 1990
WO1993015558(A2)
WO1999016050(A1)
“Low rate speech coding for telecommunications”, W. Wong, R. Mack, B. Cheatham, X. Sun, <i>BT Technology Journal</i> , Vol. 14, No. 1, January 1996
“Real-Time Implementation of a Variable Rate CELP Speech Codec,” R. Zopf, 1993

II. THE ‘606 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the ‘606 patent and identifying the corresponding appendix thereto:

Prior Art for ‘606 Patent (Anticipation)	Appendices
“TIA/EIA INTERIM STANDARD, Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems, TIA/EIA/IS-127,” Telecommunications Industry Association, Jan. 1997 (“EVRC IS-127”)	2-A
Zopf, “Real-time Implementation of a Variable Rate CELP Speech Codec,” Simon Fraser University, May 1995. (“Zopf”)	2-B

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the ‘606 patent and identifying the corresponding appendix thereto:

Prior Art for ‘606 Patent (Obviousness)	Appendices
Erdal Paksoy, et al., “Variable Bit-Rate CELP Coding of Speech with Phonetic Classification,” <i>European Transactions on Telecommunications and Related Technologies</i> , Vol. 5, No. 5, Sept./Oct. 1994, pp. 57/591-67/601 (“Paksoy”)	2-C
<i>alone, or in combination with one or more of</i>	
Digital Cellular Telecommunications System; Enhanced Full Rate (EFR) Speech Processing Functions; General Description,	

GSM 06.51 V5.1.2 (Mar. 1997) (“GSM 06.51”) <i>and/or</i> Gardner, Jacobs and Lee, “QCELP: A Variable Rate Speech Coder for CDMA Digital Cellular, in Speech and Audio Coding for Wireless and Network Applications” (Ed. B.S. Atal, V. Cuperman, A. Gersho), Kluwer Academic Publishers, Norwell, MA, 1993, pp. 85-92. (“QCELP Chapter”)	
GSM 06.51 ² <i>alone, or in combination with one or more of</i> EVRC IS-127 <i>and/or</i> U.S. Patent No. 5,812,965 to Massaloux, entitled “Process and Device for Creating Comfort Noise in a Digital Speech Transmission System,” filed October 11, 1996 (“Massaloux”) <i>and/or</i> U.S. Patent No. 6,182,032 to Rapelli, entitled “Terminal Switching to a Lower Speech Codec Rate When in a Non- Acoustically Coupled Speech Path Communication Mode,” filed September 10, 1998 (“Rapelli”) <i>and/or</i> Vainio <i>et al.</i> , “GSM EFR Based Multi-Rate Codec Family,” presented at Acoustics, Speech and Signal Processing, 12-15 May 1998, <i>Proceedings of the 1998 IEEE International Conference on Acoustics, Speech and Signal Processing</i> , vol. 1, pp. 141-144, Seattle, WA, USA, 12-15 May 1998 (“Vainio”).	2-D
Zopf <i>alone, or in combination with</i> EVRC IS-127	2-E

² GSM 06.51 “incorporates by dated and undated reference, provisions from other publications,” including GSM 06.60, Digital Cellular Telecommunications System; Comfort Noise Aspects for Enhanced Full Rate (EFR) Speech Traffic Channels, GSM 06.62 (“GSM 06.62”), Digital Cellular Telecommunications System; Voice Activity Detector (VAD) for Enhanced Full Rate (EFR) Speech Traffic Channels GSM 06.82 (“GSM 06.82”), and Digital Cellular Telecommunications System; ANSI-C Code for the GSM Enhanced Full Rate (EFR) Speech Codec, GSM 06.53 V.5.1.1 (Nov. 1996) (“GSM 06.53”). Accordingly, citations to GSM 06.51 will include citations to GSM 06.60, GSM 06.62, GSM 06.82, and GSM 06.53, that were incorporated by reference.

C. Invalidity Under 35 U.S.C. § 112

The asserted claims of the '606 patent are invalid under 35 U.S.C. § 112 for lack of written description and enablement and/or for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. § 112.

The phrase “independent of the speech coding mode,” as used in at least independent claims 1 and 16, has no clear meaning to one of ordinary skill in the art, and thus renders each of these claims and their dependent claims indefinite and thus invalid under Section 112 for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. Similarly, the phrase “independent of a coding mode,” in dependent claim 9, and the phrase “independent of at least one additional predetermined coding mode,” in dependent claim 17, each lack a clear meaning to one of ordinary skill in the art, and thus render claims 9 and 17 indefinite and invalid under Section 112 for this additional reason. The indefiniteness of these claims arises at least in part from inconsistent statements appearing in the specification of the '606 patent and made during prosecution of the '606 patent, as well as during prosecution of U.S. Patent 7,120,578, which claims priority to the '606 patent and shares a common description.

In addition, claim 7 is indefinite and invalid under Section 112 for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. As

used therein, the term “a mode” is indefinite because it is unclear whether this refers to one of the plurality of coding modes referenced in claim 1, or to an additional mode. Additionally, or in the alternative, claim 7 is invalid under Section 112 because the ‘606 patent fails to provide a written description of the manner and process of making and using the full scope of claim 7, in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the same.

Similarly, claim 8 is indefinite and invalid under Section 112 for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. As used therein, the term “a mode” is indefinite because it is unclear whether this refers to one of the plurality of coding modes referenced in claim 1, or to an additional mode. Additionally, or in the alternative, claim 8 is invalid under Section 112 because the ‘606 patent fails to provide a written description of the manner and process of making and using the full scope of claim 8, in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the same.

In addition, claim 17 is indefinite and thus invalid under Section 112 for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. As used therein, the term “processing circuit” lacks antecedent basis and thus renders the scope of the claim unclear.

D. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the ‘606 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to

provide additional contentions based on the references below or other references not yet identified.

“Speech Coding: A Tutorial Review”, A. Spanias, <i>Proceedings of the IEEE</i> , Vol. 82, No. 10, October 1994
“Real-Time Communication in Packet-Switched Networks”, C. Aras, J. Kurose, D. Reeves, H. Schulzrinne
“Techniques, Perception, and Applications of Time-Compressed Speech,” B. Arons
“Wideband Quality DPCM-AQF Speech Digitizers for Bit Rates of 16-32 kb/s”, C. Cengiz, P. Patrick, C. Xydeas
“Low Bit-Rate Speech Coders for Multimedia Communication”, R. Cox, <i>IEEE Communications Magazine</i> , December 1996
EP0496427B1
EP565504(A1)
EP565504(B1)
EP680034(B1)
EP768770(B1)
EP819302(B1)
EP1010267(B1)
EP1372289(A2)
EP1372289(B1)
GB2332598(A)
GB2344722(A)
“The Dual Excitation Speech Model”, J. Hardwick , 1992 Massachusetts Institute of Technology
“Audio Compression”, P. Herget, 1996
“Transmission of multimedia data over lossy networks”, M. Isenberg, August 1996
“Subband-Multipulse Digital Audio Broadcasting for Mobile Receivers”, X. Lin, L. Hanzo, R. Steele, W.T. Webb, 1993 IEEE
“Dynamic Bit Allocation in Subband Coding of Wideband Audio with Multipulse LPC”, P. Menardi, G. Mian, G. Riccardi
Telephone Transmission Quality: Methods for Objective and Subjective Assessment of Quality, ITU-T Recommendation P.830, (02/96)
“Variable Bit-Rate CELP Coding of Speech with Phonetic Classification,” E. Paksoy, K. Srinivasan, A. Gersho, <i>European Transactions on Telecommunications and Related Technologies</i> , Vol. 5, No. 5, Sept.-Oct. 1994
“Digital Audio Compression”, D. Pan, <i>Digital Technical Journal</i> , Vol. 5 No. 2, Spring 1993
“Low Bit Rate Speech Coding for Multimedia and Wireless Communications”, R. Salami, <i>International Workshop on Circuits, Systems and Signal Processing for Communications</i> , April 23-26, Tampere, Finland
“Voice Communication Across the Internet: a Network Voice Terminal”, H. Schulzrinne, July 29, 1992
U.S. Patent No. 5,060,269

U.S. Patent No. 5,537,509(A)
U.S. Patent No. 5,630,016(A)
U.S. Patent No. 5,742,734
U.S. Patent No. 5,812,965(A)
U.S. Patent No. 5,890,108
U.S. Patent No. 5,978,761(A)
U.S. Patent No. 6,308,081(B1)
U.S. Patent No. 6,347,081(B1)
U.S. Patent No. 6,606,593(B1)
U.S. Patent No. 6,658,064(B1)
U.S. Patent No. 7,500,018(B2)
U.S. Patent No. Appl. 2001/0046843(A1)
“Hidden Markov Model Decomposition of Speech and Noise”, A. Varga, R. Moore, 1990
WO2000013448(A2)
“Low rate speech coding for telecommunications”, W. Wong, R. Mack, B. Cheatham, X. Sun, <i>BT Technology Journal</i> , Vol. 14, No. 1, January 1996
“Real-Time Implementation of a Variable Rate CELP Speech Codec,” R. Zopf, 1993
U.S. Patent No. 7,454,330
U.S. Patent No. 6,003,001
U.S. Patent No. 5,891,118

III. THE ‘578 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the ‘578 patent and identifying the corresponding appendix thereto:

Prior Art for ‘578 Patent (Anticipation)	Appendices
EVRC IS-127	3-A
Zopf	3-B

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the ‘578 patent and identifying the corresponding appendix thereto:

Prior Art for '578 Patent (Obviousness)	Appendices
Paksoy <i>alone, or in combination with</i> GSM 06.51 ³	3-C
GSM 06.51 <i>alone, or in combination with one or more of</i> EVRC IS-127 <i>and/or</i> Massaloux <i>and/or</i> Rapeli <i>and/or</i> Vainio	3-D
Zopf <i>alone, or in combination with</i> EVRC IS-127 GSM 06.51	3-E

C. Invalidity Under 35 U.S.C. § 112

The asserted claims of the '578 patent are invalid under 35 U.S.C. § 112 for lack of written description and enablement and/or for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

³ GSM 06.51 “incorporates by dated and undated reference, provisions from other publications,” including GSM 06.60, Digital Cellular Telecommunications System; Comfort Noise Aspects for Enhanced Full Rate (EFR) Speech Traffic Channels, GSM 06.62 (“GSM 06.62”), Digital Cellular Telecommunications System; Voice Activity Detector (VAD) for Enhanced Full Rate (EFR) Speech Traffic Channels GSM 06.82 (“GSM 06.82”), and Digital Cellular Telecommunications System; ANSI-C Code for the GSM Enhanced Full Rate (EFR) Speech Codec, GSM 06.53 V.5.1.1 (Nov. 1996) (“GSM 06.53”). Accordingly, citations to GSM 06.51 will include citations to GSM 06.60, GSM 06.62, GSM 06.82, and GSM 06.53, that were incorporated by reference.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. § 112.

The phrase “independent of the speech coding mode,” as used in each of independent claims 1 and 14, has no clear meaning to one of ordinary skill in the art, and thus renders each of these claims and their dependent claims indefinite and thus invalid under Section 112 for failing to particularly point out and distinctly claim the subject matter regarded by the applicant as his invention. The invalidity of these claims arises at least in part from inconsistent statements appearing in the written description of the ‘578 patent and made during prosecution of the ‘578 patent, as well as during prosecution of U.S. Patent 6,256,606, from which the ‘578 patent claims priority, and shares a common description.

D. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the ‘578 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

“Speech Coding: A Tutorial Review”, A. Spanias, <i>Proceedings of the IEEE</i> , Vol. 82, No. 10, October 1994
“Real-Time Communication in Packet-Switched Networks”, C. Aras, J. Kurose, D. Reeves, H. Schulzrinne
“Techniques, Perception, and Applications of Time-Compressed Speech,” B. Arons
“Wideband Quality DPCM-AQF Speech Digitizers for Bit Rates of 16-32 kb/s”, C. Cengiz, P. Patrick, C. Xydeas
“Low Bit-Rate Speech Coders for Multimedia Communication”, R. Cox, <i>IEEE Communications Magazine</i> , December 1996
EP0496427B1
EP565504(A1)

EP565504(B1)
EP680034(B1)
EP768770(B1)
EP819302(B1)
EP1010267(B1)
EP1372289(A2)
EP1372289(B1)
GB2332598(A)
GB2344722(A)
"The Dual Excitation Speech Model", J. Hardwick , 1992 Massachusetts Institute of Technology
"Audio Compression", P. Herget, 1996
"Transmission of multimedia data over lossy networks", M. Isenberg, August 1996
"Subband-Multipulse Digital Audio Broadcasting for Mobile Receivers", X. Lin, L. Hanzo, R. Steele, W.T. Webb, 1993 IEEE
"Dynamic Bit Allocation in Subband Coding of Wideband Audio with Multipulse LPC", P. Menardi, G. Mian, G. Riccardi
Telephone Transmission Quality: Methods for Objective and Subjective Assessment of Quality, ITU-T Recommendation P.830, (02/96)
"Variable Bit-Rate CELP Coding of Speech with Phonetic Classification," E. Paksoy, K. Srinivasan, A. Gersho, <i>European Transactions on Telecommunications and Related Technologies</i> , Vol. 5, No. 5, Sept.-Oct. 1994
"Digital Audio Compression", D. Pan, <i>Digital Technical Journal</i> , Vol. 5 No. 2, Spring 1993
"Low Bit Rate Speech Coding for Multimedia and Wireless Communications", R. Salami, <i>International Workshop on Circuits, Systems and Signal Processing for Communications</i> , April 23-26, Tampere, Finland
"Voice Communication Across the Internet: a Network Voice Terminal", H. Schulzrinne, July 29, 1992
U.S. Patent No. 5,060,269
U.S. Patent No. 5,537,509(A)
U.S. Patent No. 5,630,016(A)
U.S. Patent No. 5,742,734
U.S. Patent No. 5,812,965(A)
U.S. Patent No. 5,890,108
U.S. Patent No. 5,978,761(A)
U.S. Patent No. 6,308,081(B1)
U.S. Patent No. 6,347,081(B1)
U.S. Patent No. 6,606,593(B1)
U.S. Patent No. 6,658,064(B1)
U.S. Patent No. 7,500,018(B2)
U.S. Patent No. Appl. 2001/0046843(A1)
"Hidden Markov Model Decomposition of Speech and Noise", A. Varga, R. Moore, 1990
WO2000013448(A2)
"Low rate speech coding for telecommunications", W. Wong, R. Mack, B. Cheatham, X. Sun, <i>BT Technology Journal</i> , Vol. 14, No. 1, January 1996

“Real-Time Implementation of a Variable Rate CELP Speech Codec,” R. Zopf, 1993
U.S. Patent No. 7,454,330
U.S. Patent No. 6,003,001
U.S. Patent No. 5,891,118

IV. THE ‘573 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the ‘573 patent and identifying the corresponding appendix thereto:

Prior Art for ‘573 Patent (Anticipation)	Appendix
EVRC IS-127	4-A

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the ‘573 patent and identifying the corresponding appendix thereto:

Prior Art for ‘573 Patent (Obviousness)	Appendices
U.S. Patent No. 6,064,962 to Oshikiri et al., entitled “Formant Emphasis Method and Formant Emphasis Filter Device,” filed September 13, 1996 <i>alone or in combination with</i> Chen & Gersho, “Adaptive Postfiltering for Quality Enhancement of Coded Speech,” <u>IEEE Trans. on Speech and Audio Processing</u> , Vol. 3 no. 1 (Jan 1995), pp. 59-71 (“Chen & Gersho”)	4-B
GSM 06.60 <i>alone or in combination with one or more of</i> Chen & Gersho <i>and/or</i> Vainio	4-C
GSM 06.60 <i>alone or in combination with</i> TDMA IS-641 <i>and/or</i>	4-D

Vainio	
--------	--

C. Invalidity Under 35 U.S.C. § 112

The asserted claims of the ‘573 patent are invalid under 35 U.S.C. § 112 for lack of written description and enablement to the extent the claims are construed to encompass Defendants’ accused products. 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112.

Plaintiff’s read of Claim 1 requires application of an adaptive tilt compensation in the formant postfilter. *See generally* Plaintiff’s Infringement Contentions. Although the ‘573 patent specification describes tilt compensation in the formant postfilter, it does not disclose that such tilt compensation can be based on an encoding bit rate of the speech system and a flatness of the signal input from the formant postfilter. *See generally* ‘573 patent, Col. 39:1-46. Thus, to the extent Claim 1 is construed to encompass the application of adaptive tilt compensation in the AMR codec in the formant postfilter, the claim lacks support in the ‘573 patent specification. Neither the specification nor the claims would indicate to one skilled in the art that the patentee was in possession of an invention having the scope that Plaintiff now asserts, nor does the specification enable one of ordinary skill in the art to make such an invention without undue experimentation. Accordingly, the asserted claims of the ‘573 patent are invalid under 35 U.S.C. § 112 for lack of written description and enablement if the claims are construed to cover Defendants’ accused products.

D. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the '573 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

Draft standard GSM EFR 06.10 (Enhanced Full Rate Speech Transcoding) (Nov. 23 1995) ("GSM 06.10")
General Aspects of Digital Transmission Systems, Coding of Speech at 8 kbit/s Using Conjugate-Structure Algebraic-Code-Excited Linear-Prediction (CS-ACELP), ITU-T Recommendation G.729 (March 1996)
Excerpt from <i>Advances in Speech Coding</i> , B. Atal, V. Cuperman, A. Gersho, 1991, Springer
"Adaptive Postfiltering for Quality Enhancement of Coded Speech," J. Chen, A. Gersho, IEEE Transactions on Speech and Audio Processing, Vol. 3, No. 1, January 1995
I. Gerson & M. Jasiuk, "Vector Sum Excited Linear Prediction (VSELP)," <i>Advances in Speech Coding</i> (ed. B. Atal et al.) (1991) at pp. 69-79
EP763818(B1)
EP1050040(B1)
"A Toll Quality 8 Kb/s Speech Codec for the Personal Communications System (PCS)," R. Salami, C. Laflamme, J. Adoul, D. Massaloux, 1994 IEEE
U.S. Patent No. 5,495,555
U.S. Patent No. 5,596,676
U.S. Patent No. 5,664,055
U.S. Patent No. 5,774,835
U.S. Patent No. 6,334,105
U.S. Patent No. 6,584,441
U.S. Patent No. Appl. 2002/0138256(A1)

V. THE '493 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the '493 patent and identifying the corresponding appendix thereto:

Prior Art for '493 Patent (Anticipation)	Appendix
Lakaniemi	5-A
U.S. Patent No. 5,548,680 to Cellario, entitled "Method and Device for Speech Signal Pitch Period Estimation and Classification in Digital Speech Coders," filed May 17, 1994 ("Cellario")	5-B
EVRC IS-127	5-C

B. Invalidity Under 35 U.S.C. § 103

Defendants have not provided separate 103 Charts for the '493 patent because Defendants believe that the 102 Charts listed in Section V.A disclose every element of the asserted claims of the '493 patent. Defendants reserve the right, however, to combine the references outlined in Section V.A with each other, or with other prior art references, to the extent WiAV denies the presence in those references of any element of the asserted claims of the '493 patent.

C. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the '493 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

"Pitch Modelling for Speech Coding at 4.8 kbits/s", G. Chahine, B. Eng, 1993
EP877355(A2)
EP877355(A3)
EP877355(B1)
"Adaptive Encoding of Fixed Codebook in CELP Coders", H. Kim, 1998 IEEE
"Improved Speech Quality and Efficient Vector Quantization in SELP", W. Kleijn, D. Krasinski, R. Ketchum, 1998 IEEE
"Generalized Analysis-By-Synthesis Coding and Its Application to Pitch Prediction", W. Kleijn, R. Ramachandran, P. Kroon, 1992 IEEE
"Speech Classification Embedded in Adaptive Codebook Search for Low Bit-Rate CELP

Coding,” C. Kuo, F. Jean, H. Wang, 1995 IEEE
“A High Quality BI-CELP Speech Coder at 8 KBIT/S and Below,” S. Kwon, H. Park, H. Chang, 1997 IEEE
“A Fast Pitch Searching Algorithm Using Correlation Characteristics in CELP Vocoder,” J. Lee, H. Jeon, M. Bae, S. Ann, 1994 IEEE
“A New Fast Pitch Search Algorithm Using the Abbreviated Correlation Function in CELP Vocoder,” J. Lee, M. Bae, H. Yoo, 1996 IEEE
“Theory and Implementation of the Digital Cellular Standard Voice Coder: VSELP on the TMS320C5x: Application Report,” J. Macres, October 1994
“Adaptive Code Excited Linear Predictive Coder (ACELP),” J. Menez, C. Garland, M. Rosso, F. Bottau, 1989 IEEE
“Analysis by Synthesis Speech Coding with Generalized Pitch Prediction,” P. Mermelstein, Y. Qian, 1999 IEEE
“2.4KBPS Pitch Prediction Multi-Pulse Speech Coding,” S. Ono, K. Ozawa, 1988 IEEE
“M-LCELP Speech Coding at 4KBPS,” K. Ozawa, M. Serizawa, T. Miyano, T. Nomura, 1994 IEEE
“Stability and Performance Analysis of Pitch Filters in Speech Coders,” R. Ramachandran, P. Kabal, 1987 IEEE
“Design and Description of CS-ACELP: A Toll Quality 8 kb/s Speech Coder,” R. Salami, C. Laflamme, J. Adoul, A. Kataoka, S. Hayashi, T. Moriya, C. Lamblin, D. Massaloux, S. Proust, P. Kroon, Y. Shoham, 1998 IEEE
“Design of a Variable Half Rate Speech Codec,” H. Sung, S. Kang, D. Lee, 1999 IEEE
U.S. Patent No. 4,980,916(A)
U.S. Patent No. 5,097,508
U.S. Patent No. 5,138,661(A)
U.S. Patent No. 6,199,035(B1)
U.S. Patent No. 7,444,283(B2)
U.S. Patent No. 7,444,283
WO1998050910(A1)
“Smoothing the Evolution of the Spectral Parameters in Speech Coders,” M. Zad-Issa, January, 1998

VI. THE ‘814 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Chart for the asserted claims of the ‘814 patent and identifying the corresponding appendix thereto:

Prior Art for ‘814 Patent (Anticipation)	Appendix
EVRC IS-127	6-A

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the ‘814 patent and identifying the corresponding appendix thereto

Prior Art for ‘814 Patent (Obviousness)	Appendices
Lakaniemi <i>alone, or in combination with</i> GSM 06.60	6-B
Cellario <i>alone, or in combination with</i> R. Di Francesco et al, “Variable Rate Speech Coding with online segmentation and fast algebraic codes,” S4b.5; pp. 233-236; CH2847-2/90/000-0233, 1990 IEEE (“Di Francesco”)	6-C

C. Invalidity Under 35 U.S.C. § 112

Claim 37 of the ‘814 patent is invalid as indefinite under 35 U.S.C. § 112. Claim 37 depends on Claim 16 and recites “the speech encoding *system* of claim 16 where a presence of a generally voiced prior interval determines a value of the adaptive weighting factor for selection of the current pitch lag.” However, Claim 16 is directed to “a *method* of encoding a speech signal,” not a *system*. Claim 37 therefore lacks an antecedent basis and is invalid under 35 U.S.C. § 112. *See* MPEP 2173.05(e).

D. Invalidity Under 35 U.S.C. § 101

Claims 16, 17, 18, 19, 21, and 24 of the ‘814 patent are invalid because they are drawn to unpatentable subject matter pursuant to 35 U.S.C. § 101, which provides that “whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” To meet this statutory requirement, the patentee must satisfy the

“machine-or-transformation” test, which requires a showing that (i) the claim is tied to a particular machine or (ii) the claim transforms an article into a different state or thing. *See In Bilski*, 545 F.3d 943, 962 (Fed. Cir. 2008). Claims 16, 17, 18, 19, 21, and 24 are unpatentable under this standard.

Claim 16 is directed to a *method* for speech encoding, comprising *identifying* a plurality of pitch lag candidates; *using* an adaptive weighting factor; and *selecting* one of the plurality of the pitch lag candidates. Similarly, claims 17, 18, and 19 are directed to a method comprising *adjusting* the adaptive weighting factor. Likewise, claim 21 is directed to a method for *identifying* a plurality of pitch lag candidates; *determining* if a previous interval contains a voiced component; *comparing* the identified pitch lag candidates; and *favoring* selection of pitch lag candidates by *weighting* a pitch correlation. Finally, claim 24 is drawn to a method comprising *detecting* a first timing relationship.

None of these claims is tied to a particular machine, and none of these claims transforms a particular article into a different state or thing. Accordingly, claims 16, 17, 18, 19, 21, and 24 are invalid under 35 U.S.C. § 101.

E. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the ‘814 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

“Pitch Modelling for Speech Coding at 4.8 kbits/s”, G. Chahine, B. Eng, 1993
EP877355(A2)
EP877355(A3)
EP877355(B1)

“Adaptive Encoding of Fixed Codebook in CELP Coders”, H. Kim, 1998 IEEE
“Improved Speech Quality and Efficient Vector Quantization in SELP”, W. Kleijn, D. Krasinski, R. Ketchum, 1998 IEEE
“Generalized Analysis-By-Synthesis Coding and Its Application to Pitch Prediction”, W. Kleijn, R. Ramachandran, P. Kroon, 1992 IEEE
“Speech Classification Embedded in Adaptive Codebook Search for Low Bit-Rate CELP Coding,” C. Kuo, F. Jean, H. Wang, 1995 IEEE
“A High Quality BI-CELP Speech Coder at 8 KBIT/S and Below,” S. Kwon, H. Park, H. Chang, 1997 IEEE
“A Fast Pitch Searching Algorithm Using Correlation Characteristics in CELP Vocoder,” J. Lee, H. Jeon, M. Bae, S. Ann, 1994 IEEE
“A New Fast Pitch Search Algorithm Using the Abbreviated Correlation Function in CELP Vocoder,” J. Lee, M. Bae, H. Yoo, 1996 IEEE
“Theory and Implementation of the Digital Cellular Standard Voice Coder: VSELP on the TMS320C5x: Application Report,” J. Macres, October 1994
“Adaptive Code Excited Linear Predictive Coder (ACELP),” J. Menez, C. Garland, M. Rosso, F. Bottau, 1989 IEEE
“Analysis by Synthesis Speech Coding with Generalized Pitch Prediction,” P. Mermelstein, Y. Qian, 1999 IEEE
“2.4KBPS Pitch Prediction Multi-Pulse Speech Coding,” S. Ono, K. Ozawa, 1988 IEEE
“M-LCELP Speech Coding at 4KBPS,” K. Ozawa, M. Serizawa, T. Miyano, T. Nomura, 1994 IEEE
“Stability and Performance Analysis of Pitch Filters in Speech Coders,” R. Ramachandran, P. Kabal, 1987 IEEE
“Design and Description of CS-ACELP: A Toll Quality 8 kb/s Speech Coder,” R. Salami, C. Laflamme, J. Adoul, A. Kataoka, S. Hayashi, T. Moriya, C. Lamblin, D. Massaloux, S. Proust, P. Kroon, Y. Shoham, 1998 IEEE
“Design of a Variable Half Rate Speech Codec,” H. Sung, S. Kang, D. Lee, 1999 IEEE
U.S. Patent No. 4,980,916(A)
U.S. Patent No. 5,097,508
U.S. Patent No. 5,138,661(A)
U.S. Patent No. 6,199,035(B1)
U.S. Patent No. 7,444,283(B2)
U.S. Patent No. 7,444,283
WO1998050910(A1)
“Smoothing the Evolution of the Spectral Parameters in Speech Coders,” M. Zad-Issa, January, 1998

VII. THE ‘992 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the ‘992 patent and identifying the corresponding appendices thereto:

Prior Art for '992 Patent (Anticipation)	Appendices
Digital Cellular Telecommunications System (Phase 2); Enhanced Full Rate (EFR) Speech Processing Functions; General Description, GSM EFR 06.51 V.4.0.1 (Dec. 1997) ⁴ ("GSM 06.51 Dec. 1997")	7-A
U.S. Patent No. 5,893,060 to Honkanen et al., entitled "Method and Device for Eradicating Instability Due to Periodic Signals in Analysis-By-Synthesis Speech Codecs," filed April 7, 1997 ("Honkanen")	7-B

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Charts for the asserted claims of the '992 patent and identifying the corresponding appendices thereto:

Prior Art for '992 Patent (Obviousness)	Appendices
GSM 06.51 (Dec. 1997) <i>alone, or in combination with one or more of</i> TIA/EIA Telecommunications Systems Bulletin, Interoperable Implementations Issues in IS-641, TSB77 (Dec. 1996) <i>and/or</i> Vainio <i>and/or</i> H. Ito et al., "An Adaptive Multi-Rate Speech Codec Based on MP-CELP Coding Algorithm for ETSI AMR Standard," <u>Proc. of 1998 IEEE Int'l Conf. on Acoustics, Speech and Signal Processing</u> , 12-15 May 1998, vol.1, pp.137-140. ("Ito")	7-C
GSM 06.51 (Dec. 1997) <i>alone, or in combination with one or more of</i> Honkanen <i>and/or</i> Vainio <i>and/or</i> Ito	7-D
U.S. Patent No. U.S. 5,970,442 to Timner, entitled "Gain Quantization in Analysis-By-Synthesis Linear Predicted Speech Coding Using Linear InterCodebook Logarithmic Gain Prediction," filed Oct. 31, 1997	7-E

⁴ GSM 06.51 (Dec. 1997) "incorporates by dated and undated reference, provisions from other publications," including GSM 06.53 and GSM 06.60. Accordingly, citations to GSM 06.51 (Dec. 1997) will include citations to sections of GSM 06.53 and GSM 06.60 that were incorporated by reference.

<p><i>alone, or in combination with one or more of</i></p> <p>Vainio <i>and/or</i></p> <p>Ito</p>	
---	--

C. Invalidity Under 35 U.S.C. § 112

The asserted claims of the 992 patent are invalid under 35 U.S.C. § 112 for lack of written description and lack of enablement to the extent the claims are construed to cover Defendants’ accused products. 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112 (emphasis added.)

The asserted claims recite either a “gain reduction factor” (*e.g.* claim 1) or a “gain reduction” followed by “regenerat[ing]” a second codebook contribution. Plaintiff attempts to read these claims on a threshold which is an upper limit on the adaptive codebook gain. *See generally* Plaintiff’s 11/23/2009 Infringement Contentions. Although the ‘992 specification discloses calculation of a “gain factor” that is used to fine tune the fixed and adaptive codebook contributions, it does not disclose or suggest the use of a threshold value to place an upper limit on the adaptive codebook gain value when certain conditions are satisfied. *See* ‘992 patent, Col. 42:31-50. Nowhere in the specification is there any discussion of reducing the gain by use of a threshold. *See generally id.* To the extent the asserted claims are construed to encompass the use of a threshold which provides an upper limit on an adaptive codebook gain, the ‘992 patent specification does not support the claimed limitations. Neither the specification nor the claims

would indicate to one skilled in the art that the patentee was in possession of an invention having the scope that Plaintiff now asserts, nor does the specification enable one of ordinary skill in the art to make such an invention without undue experimentation. Accordingly, the asserted claims of the '992 patent are invalid for lack of enablement and adequate written description under 35 U.S.C. § 112.

D. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the '992 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

Draft standard GSM 06.51 (Enhanced full rate speech processing functions: General description), ETSI SMG2 Speech Experts Group (Jan. 12, 1996).
Excerpt from <i>Advances in Speech Coding</i> , B. Atal, V. Cuperman, A. Gersho, 1991, Springer
"Adaptive Postfiltering for Quality Enhancement of Coded Speech," J. Chen, A. Gersho, IEEE Transactions on Speech and Audio Processing, Vol. 3, No. 1, January 1995
Vainio <i>et al.</i> , "GSM EFR Based Multi-Rate Codec Family," Proc. of 1998 IEEE Int'l Conf. on Acoustics, Speech and Signal Processing (ICASSP), 12-15 May 1998, vol. 1, pp. 141-144.
EP462558(A2)
EP462558(A3)
EP462558(B1)
EP462559(A2)
EP462559(A3)
EP462559(B1)
EP832482(B1)
U.S. Patent No. 4,980,516(A)
U.S. Patent No. 5,199,076(A)
U.S. Patent No. 5,199,076
U.S. Patent No. 5,233,660
U.S. Patent No. 5,235,669
U.S. Patent No. 5,313,554(A)
U.S. Patent No. 5,33,9384
U.S. Patent No. 5,583,969
U.S. Patent No. 5,657,418
U.S. Patent No. 5,692,101(A)

U.S. Patent No. 5,799,131(A)
U.S. Patent No. 5,799,131(X6)
U.S. Patent No. 5,854,845
U.S. Patent No. 5,970,442
U.S. Patent No. 6,029,128
U.S. Patent No. 6,104,992(A)
U.S. Patent No. 6,298,139
U.S. Patent No. 20050143986(A1)
WO1996035208(A1)

VIII. THE '920 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the '920 patent and identifying the corresponding appendix thereto:

Prior Art for '920 Patent (Anticipation)	Appendix
U.S. Patent No. 6,138,001 to Nakamura <i>et al.</i> , entitled "Scheme for Intermittent Reception of Paging Signals in Mobile Communications System," filed March 11, 1997	8-A
U.S. Patent No. 6,393,295 to Butler, <i>et al.</i> , entitled "Dual Event Slotted Paging," filed July 9, 1997	8-B

B. Invalidity Under 35 U.S.C. § 103

Defendants have not provided separate 103 Charts for the '920 patent because Defendants believe that the 102 Charts listed in Section VIII.A disclose every element of the asserted claims of the '920 patent. Defendants reserve the right, however, to combine the references listed in Section VIII.A with each other, or with other prior art references, to the extent WiAV denies the presence in those references of any element of the asserted claims of the '493 patent.

C. Invalidity Under 35 U.S.C. § 112

To the extent claims 1, 2, and 4 of the '920 patent are construed to cover the accused products, those claims are invalid for failing to satisfy the requirements of 35 U.S.C. § 112. The

limitation “wireless communication network/system operating in accordance with the GSM standard” as used in those claims must refer only to the GSM Standard in effect at the earliest effective filing date of the ‘920 patent as any other meaning is not supported by the specification and would render the term indefinite. The GSM standard is the second generation (“2G”) standard defined by a set of specifications that were specified by the European Telecommunications Standards Institute (ETSI) and are now maintained by the Third Generation Partnership Project (3GPP). Those specifications have been the subject of numerous changes over the years since their first publication in 1990. If the term “wireless communication network/system operating in accordance with GSM Standard” is not limited to the version of that standard existing at the time the ‘920 patent was filed, the scope of the term would be indefinite over time in violation of 35 U.S.C. § 112.

Moreover, to the extent that the limitation “wireless communication network/system operating in accordance with the GSM standard” is interpreted to cover wireless standards that were not specified until after the earliest effective filing date of the ‘920 patent, then that claim term lacks written description and/or is not enabled such that one of ordinary skill in the art could make and use a “wireless communication network/system operating in accordance with the GSM standard.” Therefore, Defendants contend that at least claims 1, 2, and 4 of the ‘920 Patent are invalid under 35 U.S.C. § 112.

D. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the ‘920 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to

provide additional contentions based on the references below or other references not yet identified.

U.S. Patent No. 5,382,949
U.S. Patent No. 5,991,600
U.S. Patent No. 6,412,540
JP H9-187077

IX. THE '205 PATENT

A. Invalidity Under 35 U.S.C. § 102

Below is a table listing the 102 Charts for the asserted claims of the '205 patent and identifying the corresponding appendix thereto:

Prior Art for '205 Patent	Appendices
U.S. Patent No. 5,828,672 to Labonte <i>et al.</i> , entitled "Estimation of Radio Channel Bit Error Rate in a Digital Radio Telecommunication Network," filed April 30, 1997 ("Labonte")	9-A

B. Invalidity Under 35 U.S.C. § 103

Below is a table listing the 103 Chart for the asserted claims of the '205 patent and identifying the corresponding appendix thereto:

Prior Art for '205 Patent (Obviousness)	Appendices
PCT Application WO 97/33402 to Makovicka <i>et al.</i> , entitled "Digital Communication System for Adapting Communications Protocol Based on a Current Communication Channel Condition," published Sept. 12, 1997 <i>alone or in combination with</i> J. Kleider & W. Campbell, "An Adaptive-Rate Digital Communication System for Speech," <u>Proceedings of the 1997 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'97)</u> (April 21-24, 1997), vol. 3, pp. 1695-1698 ("Kleider")	9-B
Labonte <i>alone, or in combination with</i>	9-C

Kleider	
---------	--

C. Additional Pertinent References

In addition to the references specifically charted, the following additional references are pertinent to the claims of the '205 patent. To the extent WiAV contends that the charted references fail to disclose any element of the asserted claims, Defendants reserve the right to provide additional contentions based on the references below or other references not yet identified.

GSM 05.08: Digital Cellular telecommunications system (Phase 2+); Radio Subsystem link control (GSM 05.08), July 1996
"Error Control schemes for networks: An Overview," H. Liu, H. Ma, M. Zarki, S. Gupta, <i>Mobile Networks and Applications</i> 2 (1997)
"Bit Error Rate Based Link Adaption for GSM," J. Pons, J. Dunlop, 1998 IEEE
PIMRC'98 Call for Papers, September 8-11, 1998
"Ber and FER Prediction of Control and Traffic Channels for a GSM Type of Air-Interface," J. Wigard, T. Toftegard Nielsen, P. Michaelsen, P. Morgensen, 1998 IEEE
JP HO5-083157

December 14, 2009

Respectfully submitted,

/s/ Brian C. Riopelle

/s/ Andrew R. Sommer

Brian C. Riopelle (VSB # 36454)
 McGUIREWOODS LLP
 One James Center
 901 E. Cary Street
 Richmond, VA 23219
 Tel: 804-775-1000
 Fax: 804-775-1061
 briopelle@mcguirewoods.com

Andrew R. Sommer (VSB # 70304)
 HOWREY LLP
 1299 Pennsylvania Avenue, N.W.
 Washington, D.C. 20004
 Tel: 202-383-6950
 Fax: 202-383-9858
 SommerA@howrey.com

Of Counsel:

Of Counsel:

Frank G. Smith (*pro hac vice*)
 John D. Haynes (*pro hac vice*)
 Stephen G. McNiff (*pro hac vice*)
 Ryan W. Koppelman (*pro hac vice*)
 David S. Frist (*pro hac vice*)
 Siraj M. Abhyankar (*pro hac vice pending*)
 ALSTON & BIRD LLP

Jonathan Retsky (*pro hac vice*)
 HOWREY LLP
 321 North Clark Street
 Suite 3400
 Chicago, IL 60654
 Tel: 312-595-1239
 Fax: 312-595-2250
 RetskyJ@howrey.com

1201 West Peachtree Street
Atlanta, GA 30309-3424
Tel: 404.881.7000
Fax: 404.881.7777
frank.smith@alston.com
john.haynes@alston.com
steve.mcniff@alston.com
ryan.koppelman@alston.com
david.frist@alston.com
shri.abhyankar@alston.com
Counsel for Defendants
**NOKIA CORPORATION AND
NOKIA INC.**

/s/ Dana D. McDaniel

Dana D. McDaniel (VSB # 25419)
SPOTTS FAIN PC
411 East Franklin Street, Suite 600
Richmond, VA 23219
Tel: 804-697-2065
Fax: 804-697-2165
dmcdaniel@spottsfain.com

Counsel for Defendant
UTSTARCOM, INC.

/s/ Marshall M. Slayton

Marshall M. Slayton
BOYLE, BAIN, REBACK & SLAYTON
420 Park Street
Charlottesville, VA 22902
Tel: 434-979-7900
Marshall.slayton@bbrs.net

Counsel for Defendants
**PERSONAL COMMUNICATIONS
DEVICES LLC and PERSONAL
COMMUNICATIONS DEVICES
HOLDINGS LLC**

Gregory Commins (*pro hac vice*)
HOWREY LLP
1299 Pennsylvania Avenue, N.W.
Washington, DC 20004
Tel: 202-383-6963
Fax: 202-383-9858
ComminsG@howrey.com

Counsel for Defendant
MOTOROLA, INC.

/s/ David E. Finkelson

David E. Finkelson
McGUIREWOODS LLP
One James Center
901 E. Cary Street
Richmond, VA 23219
Tel: 804-775-1000
Fax: 804-775-1061
dfinkelson@mcguirewoods.com

Counsel for Defendant
PALM, INC.

/s/ Brian C. Riopelle

Brian C. Riopelle (VSB # 36454)
McGUIREWOODS LLP
One James Center
901 E. Cary Street
Richmond, VA 23219
Tel: 804-775-1000
Fax: 804-775-1061
briopelle@mcguirewoods.com

Of Counsel:

Kevin P.B. Johnson (*pro hac vice*)
QUINN EMANUEL URQUHART
OLIVER & HEDGES LLP
555 Twin Dolphin Drive, Suite 560
Redwood Shores, CA 94065
Tel: 650-801-5000
Fax: 650-801-5100

Kevinjohnson@quinnemanuel.com

Eric Huang (*pro hac vice*)
Alexander Rudis (*pro hac vice*)
QUINN EMANUEL URQUHART
OLIVER & HEDGES LLP
51 Madison Avenue, 22nd Floor
New York, NY 10010
Tel: 212-849-7000
Fax: 212-849-7100
erichuang@quinnemanuel.com
Counsel for Defendants

**SONY ERICSSON
COMMUNICATIONS (USA) INC.**

CERTIFICATE OF SERVICE

I certify that on December 14, 2009, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send a notification of such filing (NEF) to all counsel of record in this case.

/s/ David E. Finkelson

David E. Finkelson (VSB # 44059)

MCGUIREWOODS LLP

One James Center

901 E. Cary Street

Richmond, VA 23219

Tel: 804-775-1000

Fax: 804-775-1061

Attorney for Defendant Palm, Inc.